

What is claimed is :

1. A protective tool (68A, 68B) for a therapeutic material delivery device comprising an outer needle (2) having an outer tubular needle (2A) and an outer needle hub (2B) supporting the outer tubular needle (2A), the protective tool being to be attached to said outer needle (2) for the protection thereof,

10 the protective tool comprising a cover (8'A) and a cap (61) or stopper (65) attached to a forward end of said cover for protecting the forward end of the outer tubular needle (2A),

15 wherein said cover (8'A) is formed of a plurality of tubes (8'A1, 8'A2, 8'A3, ...) having different diameters that are formed so as to consecutively decrease from a forward place to the outer needle hub (2B) in a backward place, and said tubes are thereby connected such that the cover 20 (8'A) is extendable in the longitudinal direction.

2. The protective tool (68A) for a therapeutic material delivery device as recited in claim 1, wherein said cap (61) has an inner tube (61A) formed inside, said inner tube (61A) has, made in a bottom thereof, a hole (62) for inserting and passing said outer tubular needle (2A), and said inner tube (61A) has, formed in an outer circumference, a groove portion (63) for inserting 30 a forward end of said outer tubular needle.

3. The protective tool (68B) for a therapeutic material delivery device as recited in claim 1, wherein said stopper (65) is constituted of a tubular opening/closing portion (66) having a forward end and a connector portion (70),

5 said opening/closing portion (66) has slits (71) formed in the longitudinal direction, one in an upper portion and the other in a lower portion, said forward end has an opening portion (66a), and said connector portion (70) has pressing portions (67) formed, one on the right and the other on the left, and has cutout grooves (69) formed, one in an upper place and the other in a lower place.

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4. A protective tool (68A, 68B) for a therapeutic material delivery device comprising an outer needle (2) having an outer tubular needle (2A) and an outer needle hub (2B) supporting the outer tubular needle (2A), a middle needle (3) having a middle tubular needle (3A) and a middle needle hub (3B) supporting the middle tubular needle (3A) and an inner needle (4) having a solid needle (4A) and an inner needle hub (4B) supporting the solid needle (4A), the outer needle, the middle needle and the inner needle being to be connected for use, the protective tool being to be attached to said outer needle (2) for the protection thereof, which protective tool comprises a cover (8'A) and a cap (61) or a stopper (65) that is attached to the forward end of said cover for protecting the forward end of said outer tubular needle (2A),

30 wherein said cover (8'A) is formed of a plurality of tubes (8'A1, 8'A2, 8'A3, ...) having different diameters that are formed so as to consecutively decrease from a forward place to the outer needle hub (2B) in a backward place, and said tubes are thereby connected such that the cover 8'A is extendable in the longitudinal direction.

5. The protective tool (68A) for a therapeutic material delivery device as recited in claim 4, wherein said cap (61) has an inner tube (61A) formed inside, said inner tube has, in a bottom thereof, a hole (62) for inserting and passing said outer tubular needle (2A), and said inner tube (61A) has, formed in an outer circumference thereof, a groove portion for inserting the forward end of said outer tubular needle (2A).

6. The protective tool (68B) for a therapeutic material delivery device as recited in claim 4, wherein said stopper (65) is constituted of a tubular opening/closing portion (66) having a forward end and a connector portion (70), said opening/closing portion (66) has slits (71) formed in the longitudinal direction, one in an upper portion and the other in a lower portion, said forward end has an opening portion (66a), and said connector portion (70) has pressing portions (67) formed, one on the right and the other on the left, and has cutout grooves (69) formed, one in an upper place and the other in a lower place.

7. A therapeutic material delivery device (1A, 1B) comprising an outer needle (2) having an outer tubular needle (2A) and an outer needle hub (2B) supporting the outer tubular needle (2A), wherein said outer needle (2) is covered with the protective tool (68A, 68B) for a therapeutic material delivery device as recited in any one of claims 1 to 3, and the forward end of said outer tubular need (2A) of said outer needle (2) is capped with a sheath (5') for protecting said

forward end.

8. The therapeutic material delivery device (1A, 1B) as recited in claim 7, wherein said sheath (5') has a projection (6') formed on an inner-circumference base portion thereof.

9. A therapeutic material delivery device (1A, 1B) comprising an outer needle (2) having an outer tubular needle (2A) and an outer needle hub (2B) supporting the outer tubular needle (2A), a middle needle (3) having a middle tubular needle (3A) and a middle needle hub (3B) supporting the middle tubular needle (3A) and an inner needle (4) having a solid needle (4A) and an inner needle hub (4B) supporting the solid needle (4A), said outer needle (2), said middle needle (3) and said inner needle (4) being to be connected in this order for use, wherein the protective tool (68A, 68B) for a therapeutic material delivery device as recited in any one of claims 4 to 6 is attached to said outer needle (2).

10. The therapeutic material delivery device (1A, 1B) as recited in claim 9, wherein said solid needle (4A) is inserted in said middle tubular needle (3A), said middle tubular needle (3A) is inserted in said outer tubular needle (2A) and the forward end of said outer tubular needle (2A) is capped with a sheath (5') for protection of said forward end.

11. The therapeutic material delivery device (1A, 1B) as recited in claim 9 or 10, wherein said outer tubular needle (2A), said middle tubular needle (3A) and said solid needle (4A) are formed

such that said solid needle (4A) has a largest length, that said middle tubular needle (3A) has an intermediate length and that said outer tubular needle (2A) has a smallest length.

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12. A therapeutic material delivery device (1A, 1B) comprising a outer needle (2) having an outer tubular needle (2A) and an outer needle hub (2B) supporting the outer tubular needle (2A), a middle needle (3) having a middle tubular needle (3A) and a middle needle hub (3B) supporting the middle tubular needle (3A) and an inner needle (4) having a solid needle (4A) and an inner needle hub (4B) supporting the solid needle (4A),

15 wherein said outer needle (2), said middle needle (3) and said inner needle (4) are being to be connected for use.

13. The therapeutic material delivery device (1A, 1B) as recited in claim 12, wherein the forward end of the outer tubular needle (2A) of said outer needle (2) is capped with a sheath (5') for protection of said forward end.

25 14. The therapeutic material delivery device (1A, 1B) as recited in claim 13, wherein said sheath (5') has a projection (6') formed on an inner circumference base portion thereof.

30 15. The therapeutic material delivery device (1A, 1B) as recited in claim 12, wherein said outer tubular needle (2A), said middle tubular needle (3A) and said solid needle (4A) are formed such that said solid needle (4A) has a largest length, 35 that said middle tubular needle (3A) has an intermediate length and that said outer tubular

needle (2A) has a smallest length.

16. A cartridge (7, 17, 37) for a therapeutic material delivery device, which cartridge permits 5 external visual observation of the therapeutic material, the cartridge comprising a transparent cartridge body (8, 18, 38) that holds said therapeutic material (10) inside and permits external visual observation of the therapeutic 10 material (10) and a shielding outer tube (9, 19, 39) that is fitted on an outer circumference of the cartridge body, is slidable in the longitudinal direction of said cartridge body and is made of a radioactive ray shielding material, said cartridge 15 body (8, 18, 38) being exposable with said sliding of said shielding outer tube.

17. The cartridge (7, 17) for a therapeutic material delivery device as recited in claim 16, 20 wherein the forward end of said cartridge body (8, 18) is provided with a head portion (5, 5A), a connector tube (6) is supported through said head portion, and said connector tube (6) is capped with a sheath (12) having an opening portion (12A) 25 formed therein.

18. The cartridge (37) for a therapeutic material delivery device as recited in claim 16, wherein the forward end of said cartridge body (38) 30 is provided with a head portion (5E), a connector tube (36) is supported through said head portion and said connector tube (36) is capped with a cap C1 having a protection portion (21) and a spindle rod (22) supported on a central portion of inner 35 circumference end portion of the protection portion (21).

19. The cartridge (7, 37) for a therapeutic material delivery device as recited in any one of claims 16 to 18, wherein an engagement portion (5C, 5 35C) is formed in the backward end of the head portion (5, 5E) provided in the forward end of said cartridge (7, 37), an engagement portion (9A, 38A) is formed in the forward end of said outer tube (9, 39), and these engagement portions are engageable 10 with each other.

20. The cartridge (7, 17, 37) for a therapeutic material delivery device as recited in any one of claims 16 to 19, wherein a stopper (16) 15 is attached to nearly a central portion of said head portion (5, 5A, 5E) of said cartridge body (8, 18, 38), and said cartridge body and said outer tube are engageable with each other on the basis of a frictional resistance between said stopper (16) 20 and an inner circumference of forward end of said outer tube (9, 19, 39).

21. The cartridge (7, 17) for a therapeutic material delivery device as recited in any one of 25 claims 16, 17, 19 and 20, wherein an outer circumference surface of said cartridge body (8, 18) is provided with a scale (20) for checking a length or an amount of the therapeutic material (10) charged inside said cartridge body (8, 18).

30 22. The cartridge (37) for a therapeutic material delivery device as recited in any one of claims 16, 18, 19 and 20, wherein an outer circumference surface of said cartridge body (38) 35 is provided with a scale (30) having divisions starting at 0 cm at intervals of 1 cm for checking

a length of the therapeutic material (10) charged in said cartridge body (38) and for calibration of the entire therapeutic material (10).

5 23. A cartridge (27) for a therapeutic material delivery device, which cartridge has a cartridge body (28) that permits external visual observation of a therapeutic material (10) held therein, wherein said cartridge body (28) is formed
10 of material that can work as a shield against radioactive rays and has a scale (20) provided on an outer circumference of said cartridge body (28), the forward end of said cartridge body (28) has a head portion (5B), a connector tube (6) is
15 supported through said head portion, and said connector tube (6) is capped with a sheath (12) having an opening portion (12A) formed therein.

24. A therapeutic material delivery device (1) comprising an outer needle (2, 32) having an outer tubular needle (2A, 32A) and an outer needle hub (2B, 32B) supporting the outer tubular needle (2A, 32A), the cartridge (7, 17, 27, 37) for a therapeutic material delivery device as recited in
25 any one of claims 16 to 23 which cartridge is chargeable with a therapeutic material (10) and an inner needle (4) having a solid needle (4A) and an inner needle hub (4B) supporting the solid needle (4A),

30 wherein an inner circumference of said outer needle hub (2B, 32B) and the forward end portion of said cartridge (7, 17, 27, 37) are formed to have mutually engageable forms,
the therapeutic material delivery
35 device(1) having a constitution in which said solid needle (4A) is inserted through the backward end of

said cartridge (7, 17, 27, 37) thereby to extrude said therapeutic material (10) into said tubular needle (2A, 32A) with the forward end of said solid needle (4A).

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